

6. Vol 40. p 221.

*Sequel to the case of primary cancer of the Fallopian tube
reported in the Thirty-ninth volume of the Society's
'Transactions.'*

By ALBAN DORAN.

[With Plate XIII.]



THROUGH the courtesy and vigilance of Dr. Amand Routh, I am enabled to exhibit this evening the pelvic viscera from the case of primary cancer of the Fallopian tube described in the Society's 'Transactions,' vol. xxxix, p. 208.

After suffering from a watery, ultimately sanious, discharge for three years, a tumour developing in the right side of the pelvis, the patient came under the care of Mr. Thornton, who, on March 1st, 1888, removed the tumour, which proved to be a cancerous Fallopian tube. The right ovary was infected, part of it was left behind. The left appendages were removed, being spoilt by old inflammatory changes. I could not find any morbid growth in either the left tube or the ovary. The stump of the left appendages, at the end of the operation, was certainly free from disease, an important fact in relation to the sequel. The uterus, in Mr. Thornton's own words, "was not so large as I thought at first, and seemed fairly firm and healthy, so that I rather doubted if there was any of the growth in it." Thus, excepting a small portion of the right ovary, no suspected tissue was left behind; but the ovary was found to be cancerous, through infection, I believe, from the tube where the disease formed a much larger growth. The general and microscopical appearances are represented in plates xiii and xiv accompanying the original paper.

In that paper I reported, "In August, 1888, she was in good health." That note was made early in August. Dr. A. Routh further noted, since the publication of the paper, that on August 10th the patient had an attack of acute obstruction of the bowels whilst at the seaside. On September 10th a large mass was discovered in the hypogastric region surrounding the uterus, but lying more to the left than to the right. The patient had suffered from chilliness, leucorrhœa, and pain in the back, hypogastrum, and legs for a week. The tumour was mobile. On October 23rd

the tumour was larger and less mobile. The patient, in the course of that month, came under the care of Dr. Calthrop, of Hornsey. He noted the increase of the tumour. There was little discharge, but considerable pain at times, especially with the action of the bowels. By the middle of December the tumour could be felt running up nearly to the level of the umbilicus. On the right side, on vaginal examination, "the whole parts were pressed out of shape by irregular masses of cancer. The pain was not so great, nor the sickness frequent." In the middle of January Dr. Calthrop writes, "Sudden sickness took place, followed by incessant diarrhoea, extreme prostration, and death on January 23rd, 1889. The mass was growing fast up to the end of the case."

Thus died the patient, aged 49, after four years of local illness. She survived the operation ten calendar months and twenty-three days.

Dr. A. Routh, with the aid of an assistant, examined the abdomen after death. He found the true pelvis blocked everywhere with cancerous masses. The intestines all round were involved and adherent. There were deposits along the glands, but the liver was free. As in many cases of intraperitoneal cancer the masses felt during life more or less like a single tumour, although their separate character was detected, as the above notes prove. They were always ill-defined, and for this reason, and possibly on account of irregular increase in size, and inflammatory changes in contiguous structures as well, it was not always easy to decide whether the disease was most marked to the right or to the left of the middle line.

The pelvic viscera were removed and brought to me. I immediately took them to the College of Surgeons, removing at once portions of the secondary deposit for microscopic purposes. The viscera were then washed and placed in spirit. They included the entire uterus, with the stumps of the appendages, the upper part of the vagina, the bladder, with part of the urethra, and a small portion of the anterior wall of the rectum.

The uterus measured three inches and a half from the fundus to the os externum. Broad membranous bands of adhesion passed between its anterior aspect and the serous investment of the back of the bladder, especially towards the left. Some of these bands were connected with the stump of the left appendages. One broad band passed from the fundus directly to the left to find

attachment to the stump, forming a pouch in front of the uterus, in which lay part of the left round ligament. These bands seemed to represent recent peritonitis; none passed from the right stump to the uterus or bladder.

The cervix was thick and soft. The os externum was circular and entire. In the vaginal portion of the cervix I found no trace of malignant ulcer, solid tumour or loss of tissue, but the surface was studded with minute secondary deposits.

The walls of the bladder were much thickened, and its cavity capacious. The mucous membrane was deeply injected; on its surface were streaks of dark congested tissue and abundant secondary deposits forming white specks slightly elevated.

Much fat lay in the subserous tissue, especially in front of the bladder and on the left side of the pelvis towards Douglas's pouch. Similar deposits of fat are frequently seen in cases of rectal cancer.

A spherical mass of new growth, three quarters of an inch in diameter, lay to the right of the cervix in Douglas's pouch. It evidently represented the portion of the cancerous right ovary which the operator was obliged to leave behind (*loc. cit.*, p. 209). Mr. Thornton could not have left much of the diseased ovary in the pelvis, for the mass was not an inch in diameter at death, nearly eleven months after the operation. Hence the entire cancerous ovary must have been very small when Mr. Thornton operated. I may fairly urge that this fact strongly favours my original view, considering the large size of the tubal growth, that the ovary was not the seat of the primary disease.

The stump of the right appendages (which included the cancerous tube) had completely cicatrised, and was not the seat of malignant deposit.¹ On laying it open no trace of the ligature could be found. The portion of the canal of the tube which traverses the uterine walls was converted into an oval, perfectly closed cystic cavity, half an inch in long diameter. It was filled with grumous, partially decolourised clot, and its mucous lining was thickened, but free from any malignant growths. The uterine end of the amputated tube contained similar clot, and was also free from cancer (*loc. cit.*, p. 210, and plate xiii, fig. 1, *b*). The uterine orifice of the tube was absolutely closed.

¹ See Mr. Thornton's note of the operation quoted in my original paper. I there observed that the diseased tissue, which he described, was probably decolourised clot.

The stump of the left appendages bore two tuberos masses of new growth, each an inch in diameter. The uterine orifice of the left tube was closed. The infection of the left stump must have commenced after the operation, as the left appendages were then free from cancerous disease, though damaged by old perimetritis.¹

On laying open the uterine cavity I found that the endometrium like the vesical mucous membrane, bore a number of small white elevations, caused by secondary malignant deposit, which in places extended into the muscular coat. The canal of the cervix was similarly affected, as was also the vaginal mucous membrane. No solid circumscribed tumour could be found in the uterine walls, nor was there any malignant ulceration of the endometrium.

Thus, cancerous infection had spread to the endometrium and to the stump of the left appendages. The remains of the cancerous right ovary had increased but slowly considering the stage of the disease. Portions of cancer cut through and left behind at operations usually grow quicker.

Considerable difficulty was experienced in making good sections of the cancerous growths as the spaces in which the cells were packed were wide, so that the cells fell out during the processes of cutting, staining, and mounting after the usual methods. By embedding pieces of tissue in celloidin after hardening, Mr. Targett succeeded in preparing the fine sections which I show to-night.

The tuberos masses found in the stump of the left appendages consisted of the most characteristic cancerous deposit, mixed with much healthy connective tissue and fat. The trabeculæ were wider than in the primary cancerous growth which grew in the right tube, and in the extension of that growth to the right ovary. The connective tissue of which the trabeculæ were formed was in parts densely fibrous as in scirrhus, in other places loose. Small-celled infiltration was marked at certain points, though less generally diffused than in the original growth. In the looser parts of the trabeculæ were numerous oval or circular holes regular in outline. At first I took them for thin-walled vessels, but no endothelium could be detected. Some of the holes might represent mucoid degeneration of the stroma. As, however, I found collections of large cells in many of them, I conclude that the holes were mostly very small areolæ.

¹ I could find no trace of the left ovary. Mr. Thornton evidently removed it entire, contrary to his opinion at the time.

The areolar spaces formed by the trabeculæ were well defined and often widely separated from each other, on account of the thickness of the trabeculæ. The cells which the spaces contained were large and similar to those which filled the spaces in the primary growth. The cells had not undergone advanced changes such as were seen in the growth which had invaded the right ovary (loc. cit., plate xiv, fig. 4). In no places did fibres from the stroma pass from the trabeculæ between individual cells. In fact, the appearances plainly indicated cancer and not sarcoma.

The drawing represents a section as seen under a half-inch objective (Plate XIII, fig. A). It displays those peculiarities in the cells and the trabeculæ which have just been described. If the border regions between the collections of large cells and the trabeculæ be viewed under an eighth-inch objective, the appearances will be very similar to what was seen in similar regions in sections from the original growth in the tube (loc. cit., plate xiii, fig. 2). On the other hand, a section from the original tumour, when viewed under a half-inch objective, bore a close resemblance to the section now exhibited. Of course, I refer to the actual cancerous deposit only, and not to the normal tubal tissues invaded by that deposit, nor to the remarkable tubular structures (loc. cit., pl. xiv, fig. 3), limited to the primary growth.

I found similar appearances in sections made through the cancerous deposits on the endometrium. The epithelium had disappeared, the deposit lying chiefly in the submucous tissue, although it invaded the muscular wall of the uterus in many places.

That the cancerous deposits in the uterus were secondary there can be no doubt. I have already recorded the evidence that the cancer of the right ovary was secondary also. Hence the disease was primary in the right Fallopian tube. The tumour which it formed was discovered by Dr. A. Routh about one year before operation. As I remarked last year, had the tumour been ovarian it would, according to my experience of malignant ovarian disease, have obtained a much greater size after twelve months' growth.

I am now able to add to my observations in the original paper some additional information on the experience of others in regard to malignant disease of the Fallopian tubes. Of primary carcinoma I find three cases satisfactorily recorded; of primary sarcoma, two cases. Of secondary carcinoma of the tube I need say nothing, for quite recently Dr. Orthmann has published a good summary of

cases, thirteen in all, though microscopic evidence is not always forthcoming. They are recorded in his article "Ueber Carcinoma Tubæ" ('Zeitschrift für Geburtshülfe und Gynäkologie,' vol. xv, part 1), and I find that only one case of primary cancer has occurred in Dr. Martin's practice. That case I noticed last year. The second case was that which I then described, and now have the opportunity of recording in full. The third occurred in the practice of Professor Kaltenbach, since the publication of Dr. Orthmann's paper and my own.

Before briefly recording Professor Kaltenbach's case, I must observe that I overlooked last year a second case of primary sarcoma of the tube. It occurred in Dr. Landau's practice, and is described by Dr. Gottschalk in the 'Centralblatt für Gynäkologie,' vol. x, 1886, p. 727. The patient was thirty-seven years old, and had borne three children. After she had suffered three months from pain, chiefly to the right of the hypogastrum, a tumour "as big as a walnut" was found to the right of the uterus, which lay in its normal position. Behind this tumour was a large mass "as big as an apple." Small firm masses could be felt in Douglas's pouch. The larger tumour proved, at the operation, to be a blood-cyst, lying between the sacrum and the ovary. The masses in the pouch were secondary deposits. The tumour, "as big as a walnut," lay in the abdominal portion of the right tube, the lumen (? ostium) of which was pervious. There was no mention of ascitic effusion. The patient died four days after operation; no necropsy was permitted. The tumour was a small-celled spindle-celled sarcoma. Unfortunately, as in Dr. Senger's case of sarcoma, no drawings have been published of the microscopic appearances of the tumour. Dr. Gottschalk's is the youngest case in which primary malignant tubal disease has been recorded.

The third case of primary carcinoma of the Fallopian tube is described in the 'Centralblatt für Gynäkologie,' No. 5, 1889, p. 74. The patient was fifty years old when she was operated upon by Professor Kaltenbach. For four years she had been subject to constant discharge of a sanious watery fluid. In this respect the case resembled that which I have described. For eight weeks before operation the patient suffered from severe pains in the right half of the pelvis, which radiated towards the epigastrium and lower extremities. Both tubes were found to be cancerous,—the left "as big as a plum," the right "the size of a fist." The operation

was performed on July 17th, 1888. When last heard of, over five months after operation, the patient was in good health. Both tubes were filled with medullary papillomatous growths which sprang from the mucous membrane and encroached on the muscular coat, precisely as in my own case. On the right side cancerous material projected under the peritoneal investment of the tube. The ovaries and uterus showed no signs of cancer. The case appears to represent simultaneous cancerous degeneration of papillomatous tubes. I understand that a more complete account will shortly be published by Dr. Kaltenbach. (3rd Ed. G. L. XVI, 354)

The following table of the five cases of primary malignant disease of the Fallopian tube may prove useful for comparison and reference. As may be gleaned from the fuller accounts of the same cases already given in the present and the original papers, the sexual history is, in more than one instance, incomplete,¹ so that I have not introduced into these tables any columns with the heading "married or single," "number of children," &c.

The evidence which can be gleaned from this table tends to confirm certain opinions which I expressed at the end of the original paper on Mr. Thornton's case. Papilloma of the Fallopian tube appears to have an inflammatory origin. It may proceed till large masses of papillomata develop, these growths being perfectly innocent, although they may even provoke ascites and hydrothorax. On the other hand, the papillomatous vegetations may undergo malignant degeneration. In short, cancer of the tube appears to spring from papilloma of the tube. Carcinoma of the Fallopian tube occurs near the menopause, and is accompanied by vaginal discharge, generally sanious. Its course is apparently slower than that of cancer in most other organs; certainly far less rapid than in ovarian cancer. Evidence as to the origin and precise nature of sarcoma of the Fallopian tube is as yet very scanty. Only two cases have been recorded, and no drawings of either appear to have been published.

May 7th, 1889.

¹ In his paper, "Ueber Carcinoma Tubæ," loc. cit., Dr. Orthmann notes that Martin's patient, aged 46, was a widow. She had been married three years, and there was a doubtful history of abortion a year and a half before operation. When she became a widow is not stated. She menstruated about a month before operation. After the "lumps" were noticed in the abdomen during her convalescence from typhoid fever a moderate leucorrhæal discharge set in. The principal features of this case were recorded in my paper on cancer, published in the 'Transactions' of last year.

Cases of Primary Malignant Disease of the Fallopian Tube.

I.—CARCINOMA.

No.	Age.	Side.	Chief Symptoms.	Duration of Symptoms before Operation.	Result of Operation.	Character of Tumour.	Other Parts Involved.	Operator.	Reference.
1	46	R.	Tumour to right of uterus, then moderate leucorrhœa. Encysted serous perimetritis to left	About 1½ years	D. 6th day	Cancerous papillomatous masses	Cancerous nodules in vesico-uterine pouch. Enlarged pelvic glands. Large abscess of right ovary. Suppuration of left tube and ovary	Martin (Berlin)	Orthmann, "Ueber Carcinoma Tubæ," 'Zeitschr. f. Geburtsh.' vol. xv.
2	48	R.	Sanious, watery discharge; perimetritis after scraping of endometrium. Then tumour to the right of uterus	3 years	Lived 10 months, 3 weeks	Large soft cancerous masses growing from tubal walls	Right ovary small, cancerous. Left appendages much diseased through old inflammation. Recurrence in stump of left appendages. Secondary deposits in uterus, bladder, vagina, and lumbar glands	Thornton	Author, 'Trans. Path. Soc.,' vol. xxxix, p. 208, and present paper.
3	50	R. & L.	Sanious, watery discharge	4 years	Well 5 months after	Medullary papillomatous masses in both tubes	Apparently no extension to neighbouring organs	Kaltenbach	Kaltenbach, 'Centralbl. f. Gynäk.,' 1889, p. 74.

II.—SARCOMA.

151	R. & L.	None.	Disease discovered after death of patient from diabetes	Two oval dilatations in each tube, containing papillary masses made up of rounded celled sarcoma	Senger, 'Centralbl. f. Gynäk.,' 1886, p. 601.
237	R.	Hypogastric pain; tumour to right of uterus	tu-3 months	...	D. 4th day	Small-celled spindle-celled sarcoma in abdominal half of tube	Secondary deposit in Douglas's pouch; blood-cyst behind ovary	Landau	Gottschalk, 'Centralbl. f. Gynäk.,' 1886, p. 727.

Dr. J. A. M. ...
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